



DOWNHOLE Short Hop WIRELESS GAUGES

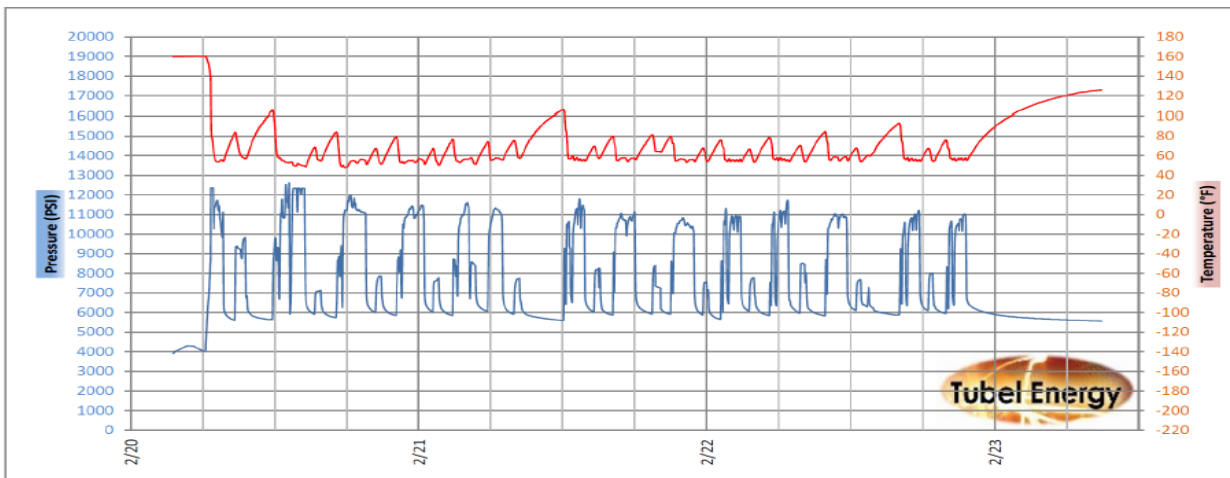
Tubel's wireless gauges cover a broad range of applications such as:

- Gas lift monitoring
- Monitor frac job from adjacent producing well
- Production/inflow monitoring
- Frac and flow back monitoring
- Diagnostic Fracture Injection Test- **DFIT**
- Evaluate well connectivity

Wireless gauges for monitor FRAC, DFIT and Production using pressure and temperature data acquired downhole. Gauges use short hop communications for data transfer to a receiver module. Gauges are deployed in wells in line with the 5.5 inches or 4.5 inches casing as simple pup joints that are cemented in the well. For tubing applications 2 7/8 in. or 3.5 in. gauges are used.

Frac Job with wireless gauge in well

1	Row	Date	Time
	start	15	2/20/19 15:29:57
	end	25611	2/23/19 20:54:39
	Number of samples	25596	





Real Time Downhole Wireless Gauges

Production Monitoring using Acoustic Waves for Real Time Communications



Transmission Range:	5,000 ft (1,560 meters)
Max Operating Temp:	250 F (125 Celsius)
Max Pressure:	10,000 psi
No. of Pressure Sensors:	one - tubing
Pressure Resolution:	1.25 psi at 5,000 psi sensor
Temperature Resolution:	1 degree Fahrenheit
Data Acquisition Rate:	4 second
Data Transmission Rate:	10 bits/second
Battery Life:	3 years
Mechanical Specs:	2.3 inches diameter 6 ft long